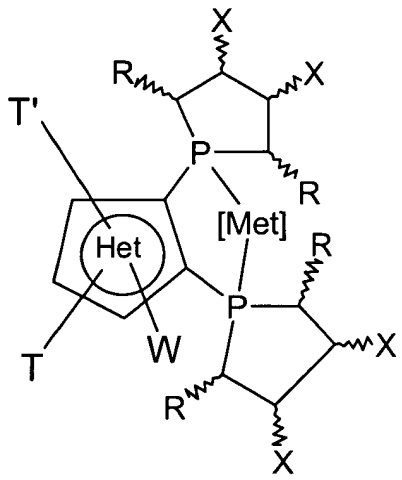
AMENDMENTS TO THE CLAIMS

1. (Original) Metallic catalysts of the formula (I)



(I)

where:

[Met] is a metal selected from the group consisting of Ru, Rh, Ir, Pt, Pd, Ni, Re, and Cu, having a number of oxidation n, where n is 0, +1, +2 or +3, and containing possible ancillary co-ligands for completing its state of valence;

represents an aromatic pentatomic heterocycle, containing at least one hetero-atom selected from the group consisting of: oxygen, sulphur and nitrogen;

T and T', which are the same as or different from one another, are selected from the group consisting of hydrogen, a linear, cyclic or branched C1-C10 alkyl, hydroxyalkyl, alkoxyalkyl, phenyl, alkylphenyl, naphthyl, alkoxyphenyl, dialkylaminophenyl, carboxyphenyl,

carbalkoxyphenyl, or else T and T', taken together, form an aromatic carbocyclic ring, possibly substituted by one or more alkyl, hydroxy, alkoxy, dialkylamino, carboxy, carbalkoxy or sulphonic groups;

W is a substituent present only when the hetero-atom is nitrogen and is selected from H, a linear, cyclic or branched C1-C10 alkyl, alkoxyalkyl, phenyl, alkylphenyl, naphthyl, alkoxyphenyl, dialkylaminophenyl, carboxyphenyl, carbalkoxyphenyl;

R is selected from hydrogen, a linear, cyclic or branched C1-C10 alkyl, hydroxyalkyl, alkoxyalkyl, phenyl, alkylphenyl;

X is selected from H, a linear, cyclic or branched C1-C10 alkyl, hydroxy, alkoxy, benzyloxy, acyloxy, O-tetrahydropyranyl, O-tetrahydrofuranyl, or else where the two substituents X, taken together with m carbon atoms bound thereto, with m = 1, 2 or 3, form a carbocyclic ring with a total of 5-7 atoms or a saturated heterocyclic ring with 5-7 atoms.

2. (Currently Amended) The catalysts according to Claim 1, ~~characterized in that they~~ wherein said catalysts are in racemic form.

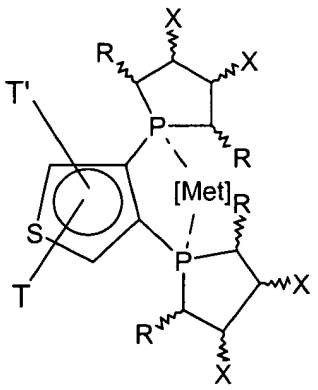
3. (Currently Amended) The catalysts according to Claim 1, ~~characterized in that they~~ wherein said catalysts are in meso form.

4. (Currently Amended) The catalysts according to Claim 1, ~~characterized in that they~~ wherein said catalysts are in enantiomerically enriched form of configuration R or S with the limitation, that:

a) the carbon atoms in positions 2' and 5' of the phospholanic rings possess the same absolute configuration with respect to one another;

b) the carbon atoms in positions 3' and 4' of the phospholanic rings possess the same absolute configuration with respect to one another.

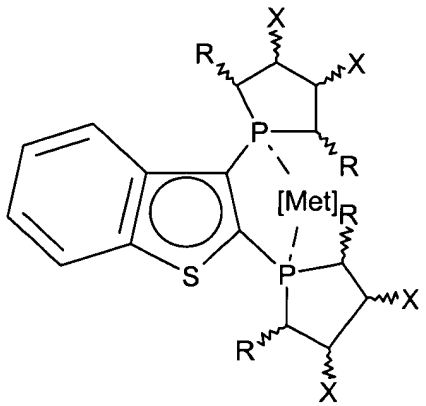
5. (Currently Amended) The catalysts, according to ~~any one of Claims 1-4~~ claim 1, of formula (V).



(V)

in which T, T', R, X and [Met] have the meanings indicated above.

6. (Currently Amended) The catalysts, ~~according to any one of Claims 1-4~~ according to claim 1, of formula (VI)

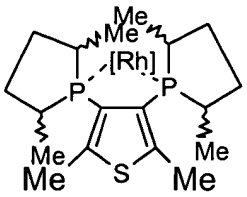


(VI)

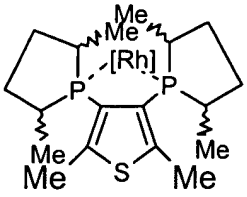
in which R, X and [Met] have the meanings indicated above.

7. (Currently Amended) The catalysts according to Claim 5, ~~characterized in that~~ wherein T and T' are both H or both methyl.

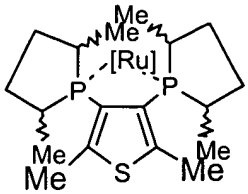
8. (Original) The catalysts according to Claim 5, selected from the group consisting of:



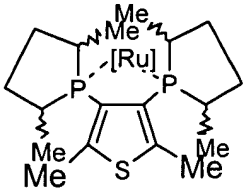
[Rh] = $Rh(COD)BF_4$



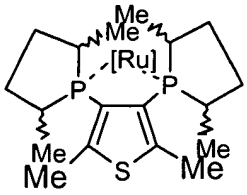
[Rh] = Rh(COD)OTf



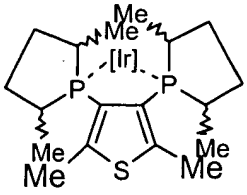
[Ru] = RuI(p.cimene)I



[Ru] = Ru(bis metallil)



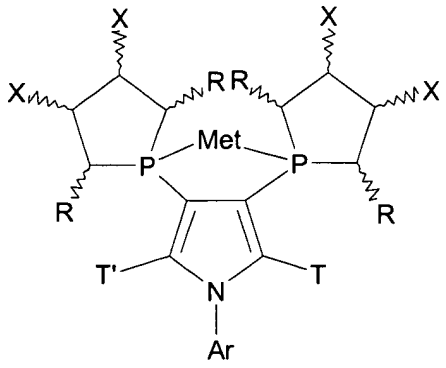
[Ru] = RuX_2



[Ir] = Ir(COD)OTf

where the two stereocentres in positions 2' and 5' of the phospholanic rings have both absolute configuration (R) or both absolute configuration (S).

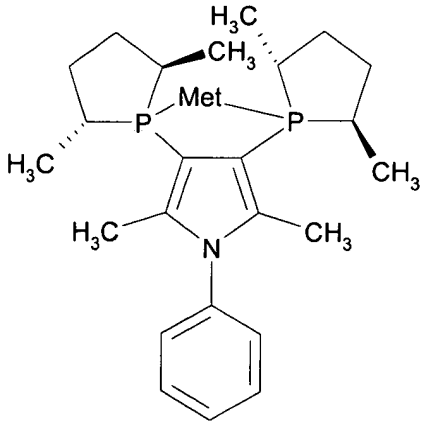
9. (Currently Amended) The catalysts according to ~~any one of claims 1-4~~ to claim 1 of formula (VII)



(VII)

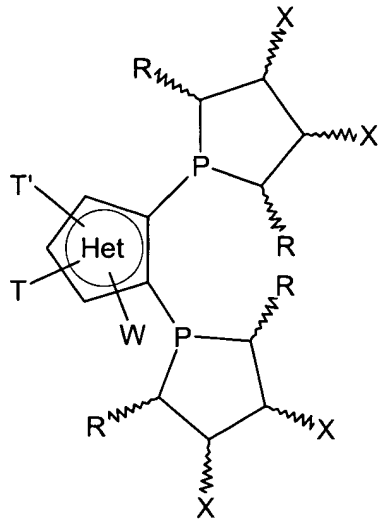
wherein T and T' preferably are both H or both the same linear, cyclic or branched C1-C10 alkyl, R is CH_3, Ar is an electron donor arylic residue.

10. (Original) The catalyst according to claim 9 having the following formula



wherein Met has the aforesaid meanings.

11. (Original) Ligands with an ortho *bis*(1-phospholanyl)heteroarenic structure of formula (IA)



(IA)

in which

represents an aromatic pentatomic heterocycle, containing at least one hetero-atom selected from the group consisting of oxygen, sulphur and nitrogen;

T and T', which are the same as or different from one another, are selected from hydrogen, a linear, cyclic or branched C1-C10 alkyl, hydroxyalkyl, alkoxyalkyl, phenyl, alkylphenyl, naphthyl, alkoxyphenyl, dialkylaminophenyl, carboxyphenyl, carbalkoxyphenyl, or else T and T' taken together form an aromatic carbocyclic ring possibly substituted by one or more alkyl, hydroxy, alkoxy, dialkylamino, carboxy, carbalkoxy or sulphonic groups;

W is a substituent present only when the hetero-atom is nitrogen and is selected from H, a linear, cyclic or branched C1-C10 alkyl, alkoxyalkyl, phenyl, alkylphenyl, naphthyl, alkoxyphenyl, dialkylaminophenyl, carboxyphenyl, carbalkoxyphenyl;

R is selected from hydrogen, a linear, cyclic or branched C1-C10 alkyl, hydroxyalkyl,

alkoxyalkyl, phenyl, alkylphenyl;

X is selected from H, a linear, cyclic or branched C1-C10 alkyl, hydroxy, alkoxy, benzyloxy, acyloxy, O-tetrahydropyranyl, O-tetrahydrofuranyl, or else where the two substituents X, taken together with m carbon atoms bound thereto, with m = 1, 2 or 3, form a carbocyclic ring with a total of 5-7 atoms or a saturated heterocyclic ring with 5-7 atoms.

12. (Currently Amended) The ligands according to Claim 11, ~~characterized in that they~~ wherein said ligands are in racemic form.

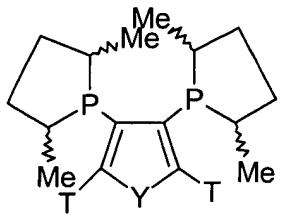
13. (Currently Amended) The ligands according to Claim 11, ~~characterized in that they~~ wherein said ligands are in meso form.

14. (Currently Amended) The ligands according to Claim 11, ~~characterized in that they~~ wherein said ligands are in enantiomerically enriched form of configuration R or S with the limitation, that:

a) the carbon atoms in positions 2' and 5' of the phospholanic rings possess the same absolute configuration with respect to one another;

b) the carbon atoms in positions 3' and 4' of the phospholanic rings possess the same absolute configuration with respect to one another.

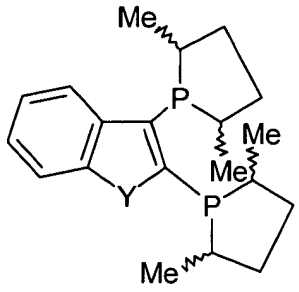
15. (Currently Amended) The ligands according to ~~any one of Claims 11-14~~ claim 11, ~~characterized in that they~~ wherein said ligands have the following formula (II)



(II)

and in which Y is selected from O, S and N(W), T and W are selected from hydrogen and methyl, and where the carbon atoms in positions 2' and 5' of the phospholanic rings have both absolute configuration (R) or both absolute configuration (S).

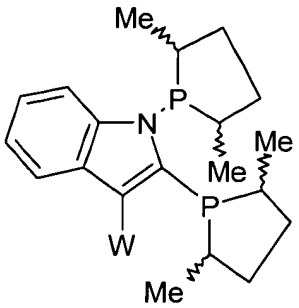
16. (Currently Amended) The ligands according to ~~any one of Claims 11-14~~ claim 11, ~~characterized in that they~~ wherein said ligands have the following formula (III)



(III)

in which Y is selected from O, S and N(W), T and W are selected from hydrogen and methyl, and where the carbon atoms in positions 2' and 5' of the phospholanic rings have both absolute configuration (R) or both absolute configuration (S).

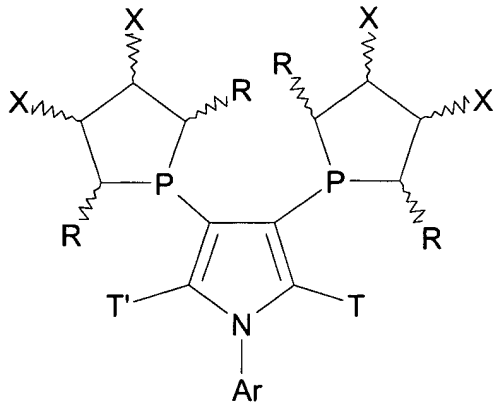
17. (Currently Amended) The ligands according to ~~any one of Claims 11-14~~ claim 11, ~~characterized in that they~~ wherein said ligands have the following formula (IV)



(IV)

and in which W is selected from hydrogen and methyl and where the carbon atoms in positions 2' and 5' of the phospholanic rings have both absolute configuration (R) or both absolute configuration (S).

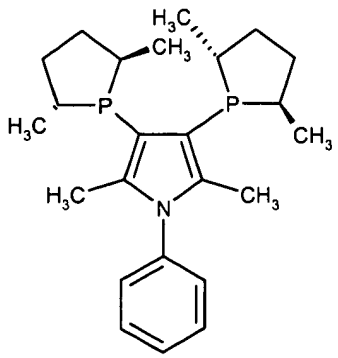
18. (Currently Amended) The ligands according to ~~any one of claims 11-14~~ claim 11 ~~characterized in that they~~ wherein said ligands have the following general formula (VIIA)



(VIIA)

wherein T and T' preferably are both H or both the same linear, cyclic or branched C1-C10 alkyl, R is CH_3, Ar is an electron donor aryl residue.

19. (Currently Amended) The ligand according to claim 18 ~~characterized by having~~ wherein said ligands have the following formula.



20. (Currently Amended) A process of preparation of the catalysts according to ~~any one of Claims 1-10~~ claim 1, comprising the reaction of [Met] in which [Met] has the aforesaid meanings, with the ligands according to any one of Claims 11-18.

21-24. (Canceled).

25. (New) Process for carrying out chemoselective synthesis wherein the catalyst according to claim 1 is used.

26. (New) Process for carrying out regioselective synthesis wherein the catalyst according to claim 1 is used.

27. (New) Process for carrying our stereoselective synthesis wherein the catalyst according to claim 1 is used.

28. (New) Process for carrying out stereoselective synthesis wherein the catalyst according to claim 4 is used.

29. (New) The process according to claim 23, wherein said stereoselective syntheses are selected from the group consisting of:

- hydrogenation of C=C, C=O, C=N groups
- isomerization of enamines and formation of C-C bonds.

30. (New) The process according to claim 24, wherein said stereoselective syntheses are selected from the group consisting of:

- hydrogenation of C=C, C=O, C=N groups
- isomerization of enamines and formation of C-C bonds.

31. (New) The process according to claim 25, wherein said formation of C=C bonds are selected from the group consisting of the Heck reaction, the Diels-Alder reaction, allylic substitution and aldolic condensation.

32. (New) The process according to claim 26 wherein said formation of C=C bonds are selected from the group consisting of the Heck reaction, the Diels-Alder reaction, allylic substitution and aldolic condensation.